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Acute Coronary Syndromes

THE IMPACT OF THROMBUS ASPIRATION DURING PRIMARY PERCUTANEOUS CORONARY INTERVENTION ON ONE-YEAR MORTALITY IN ST-SEGMENT ELEVATION MYOCARDIAL INFARCTION

ACC Moderated Poster Contributions
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Background: Thrombus aspiration (TA) during primary percutaneous coronary intervention (PPCI) has been shown to improve coronary blood flow and myocardial perfusion in patients with ST-segment elevation myocardial infarction (STEMI). However, the effect of thrombus aspiration on the clinical outcomes of these patients remains uncertain. The aim of this study was to evaluate the effect of thrombus aspiration on one-year mortality in patients undergoing PPCI for STEMI.

Methods: Analysis of prospectively collected data of all consecutive STEMI patients undergoing primary PCI between March 2008 and June 2011 at a regional tertiary centre.

Results: A total of 2567 patients (mean age of 63.2±13.4 years, 70.3 % male) were included in this analysis. TA was used in 1095 patients (42.7%) (the thrombectomy group), whereas 1472 patients (57.3%) underwent PPCI without TA (the non-thrombectomy group). The one-year mortality rate was 5.7% in the thrombectomy group compared to 11.5% in the non-thrombectomy group (unadjusted HR; 0.49, 95% confidence interval (CI); 0.37-0.66, p<.001). In the Cox multivariate proportional hazards model, thrombus aspiration was associated with significantly lower one-year mortality even after correcting for several confounders (adjusted HR of 0.68, 95% CI: 0.48-0.96, p=0.028). Other predictors of one-year mortality were age, admission heart rate and systolic BP, multi-vessel coronary artery disease, admission haemoglobin and creatinine, previous myocardial infarction, anterior MI and longer total ischaemic time. This analysis was repeated in the subgroup of patients in whom left ventricular systolic function (LVSF) was documented (n=1076, 41.8%). Thrombus aspiration remained an independent predictor of reduced one-year mortality even after correcting for LVSF (adjusted HR; 0.37, 95% CI: 0.19-0.72, p=0.003).

Conclusions: In this large observational study of unselected, consecutive STEMI patients, manual thrombus aspiration during PPCI was associated with a significant reduction in all-cause mortality at one year. These findings further confirm the beneficial effect of thrombus aspiration in this group of patients.